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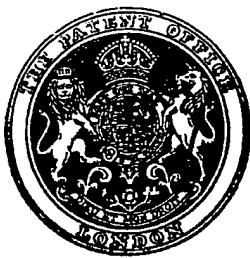
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RESEARCH PATENT SPECIFICATION



684,788

No. 16606/50.

Date of filing Complete

Specification : July 4, 1951.

Application Date: July 4, 1950.

Complete Specification Published : Dec. 21, 1952.

Index at acceptance:—**Class 81(ii), B9a8a.**

COMPLETE SPECIFICATION.

A Face Piece for use with Gaseous Anaesthetic Apparatus.

We, WILLIAM EDMONDSON, of Holmfeld House, Oxenhope, Keighley, in the County of York, and WILFRED JONES, of 1A, Elm Street, Oxenhope aforesaid, both British

5 Subjects, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to a nose piece and head band for use in connection with gaseous anaesthetic apparatus and it comprises a nose piece connected by a flexible and 15 extensible tube to a coupling which is supported by a curved strap that is attached by sprung wires to temple pads, the corrugated or other supply tube to the machine being attached to a tapered fitting 20 forming part of the coupling.

Attached to the temple pads of the head band is a flexible strap which holds the nose piece in place by being secured to studs thereon. This strap keeps the nose 25 piece firmly in position and also secures the head band to the patient's head, the arrangement being such that the nose piece can be securely fastened to the patient's head and any pull from the corrugated or 30 other supply tube from the machine to the head band is not transmitted to the nose piece.

A feature of the invention consists of a very light expiratory valve situated in a 35 valve casing that screws into the nose piece and can be firmly sealed without putting any excessive strain on to such valve which may result in distortion and prevent the valve from working correctly when no load 40 is exerted on it.

In the accompanying drawings:

Fig. 1 is a view of the nose piece and head band in position on what might be a patient's head shown more or less diagrammatically;

Fig. 2 is a section taken through the expiratory valve and drawn to a larger scale; and

Fig. 3 is a section taken through a temple pad.

A indicates the nose piece, B the head band, C the flexible and extensible tube, D the coupling, E the sprung wires and F the temple pads.

Attached to the nose piece A is an inflatable pad A¹, and attached to the temple pad F is a rubber pad F¹. The nose piece A is attached to the temple pad F by a rubber or other like extensible strap G, such straps being formed with holes G¹ 50 60 which fit over a stud F² on the pad F for fixing and adjustment purposes.

The expiratory valve H consists of a thin disc which may be made of mica and is adapted to rest by gravity on an annular knife-edged seating J in a valve casing K that screws into the nose piece A.

Extending upwardly from holes formed in the valve casing are a number of rods L that project into the bore of the valve 70 casing and prevent the valve from rubbing thereon. These rods enter or pass through holes in an annular plate M that is supported on the top of the valve casing.

Depending from the plate M are a number of pins N which limit the maximum lift of the valve and are pointed to prevent the valve from adhering to them when moisture is present.

Screwed on to the valve casing is a screw 80 cap O formed with a locating pin O¹ for a spring O² which terminates in proximity to the valve H.

The valve cap can be raised and lowered by turning it in one direction or the other 85 and it is provided with a screw O³ which by engaging with the top of a recess K¹ prevents the cap from being removed. In this position the valve H is in the "no load" position as the spring O² is clear of 90

the valve and the effort required to exhale is very small. As the cap is fully screwed down, the spring O^2 comes into action and increases the valve loading and consequently increases the effort required to exhale.

When the cap is screwed down the part O^4 seats on a shoulder K^1 of the valve casting and seals the valve completely and thus 10 prevents exhalation.

The important feature of this expiratory valve arrangement is that it can be securely sealed without putting any excessive strain on the very light valve H which 15 might result in distortion and prevent the valve from working correctly in the "no load" position.

What we claim is:—

1. A nose piece and head band for use 20 in connection with gaseous anaesthetic apparatus in which the nose piece is connected by a flexible and extensible tube to a coupling which is supported by a curved strap that is attached by sprung wires to 25 temple pads, the corrugated or other supply tube to the machine being attached to a tapered fitting forming part of the coupling.

2. A nose piece and head band accord-

ing to Claim 1 in which the temple pads 30 of the head band are attached to a flexible strap which holds the nose piece in place by being secured to studs thereon, the said strap keeping the nose piece firmly in position and also securing the head band to 35 the patient's head, the arrangement being such that any pull from the corrugated or other supply tube from the machine to the head band is not transmitted to the nose piece. 40

3. A nose piece and head band according to either of the preceding claims in which a very light expiratory valve is situated in a valve casing that screws into the nose piece and can be firmly sealed without putting any excessive strain on to such valve which may result in distortion and prevent the valve from working correctly when no load is exerted on it. 45

4. A nose piece and head band having 50 its parts constructed, arranged and adapted to operate substantially as described with reference to the accompanying drawings.

Dated this 30th day of June, 1951.

APPLEYARD & CROSSLEY,
41, Commercial Street, Halifax,
Agents for the Applicants.

PROVISIONAL SPECIFICATION.

A Face Piece for use with Gaseous Anaesthetic Apparatus.

55 We, WILLIAM EDMONDSON, of Holmfeld House, Oxenhope, Keighley, in the County of York, and WILFRED JONES, of 1A, Elm Street, Oxenhope aforesaid, both British Subjects, do hereby declare this invention 60 to be described in the following statement:

This invention relates to a nose piece and head band for use in connection with gaseous anaesthetic apparatus and it comprises means whereby the nose piece can be securely fastened to the patient's head and which will eliminate any pull from the corrugated or other supply tube from the machine to the head band, and it consists in connecting the nose piece by a flexible 65 and extensible tube to a coupling which is supported by a curved strap to which is attached, sprung wires, at the ends of which are temple pads. The corrugated or other supply tube to the machine is attached to 70 a tapered fitting forming part of the coupling.

Attached to the nose piece is a flexible strap which holds the nose piece in place by being secured to studs on the temple pad. This strap keeps the nose piece firmly 80 in position and also secures the head band to the patient's head.

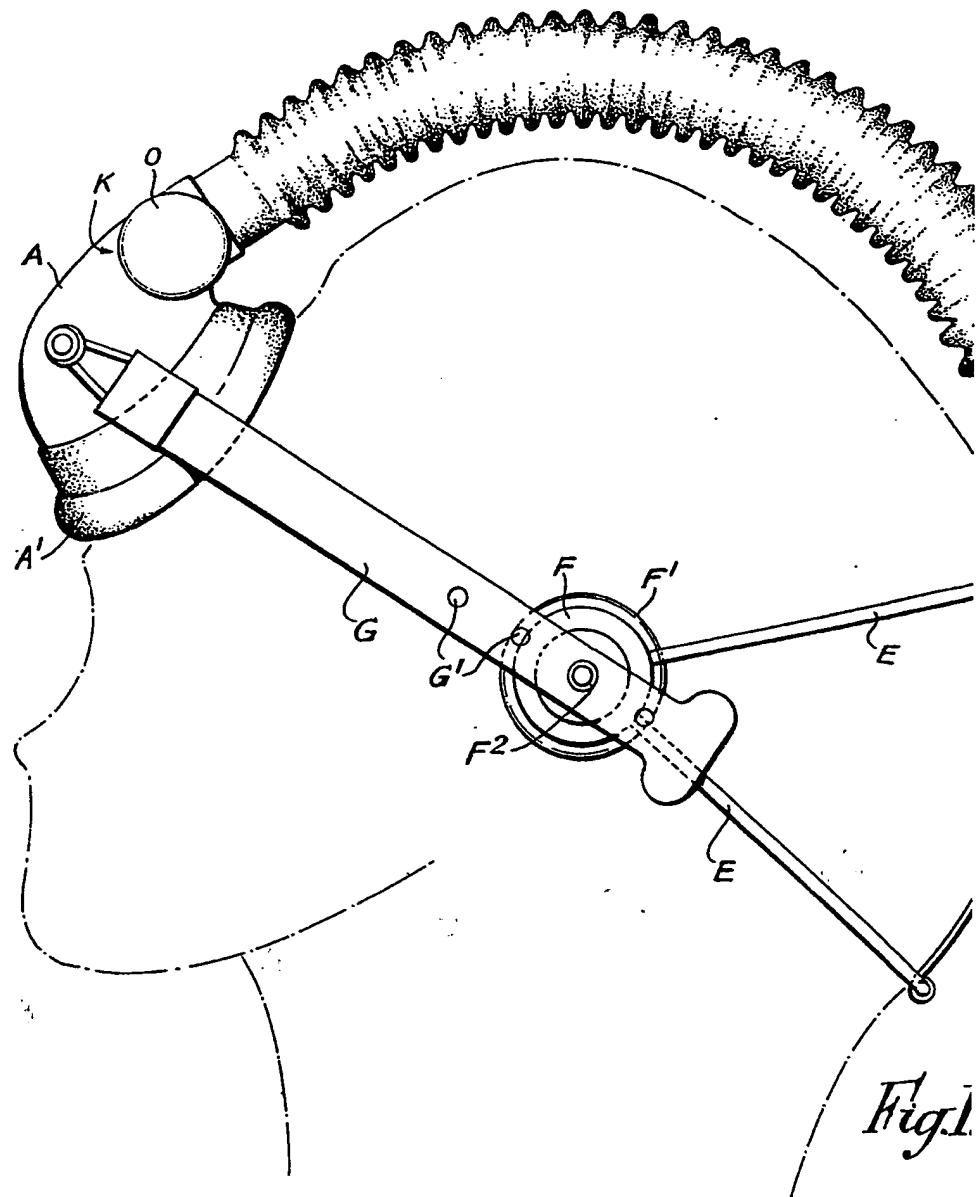
A feature of the invention consists of

an expiratory valve that is mounted on one side of the nose piece and comprises a 85 valve seat that is rigidly fixed in the nose piece casing and is formed with passages and terminates in an annular seating with a knife edge and screwed into the centre of such seating is a valve guide terminating in a cap in which is mounted a rubber thrust ring. Situated between such ring and the seating is a thin metal disc valve that is slidably mounted on the valve guide and interposed between such disc valve and 90 the cap is a coil spring which tends to press the thin disc valve on to the seating, the arrangement being such that when the patient exhales the air pressure pushes the valve off its seating and allows the air to 95 escape between the valve seating and the cap. The pressure required to lift this valve can be increased by screwing the cap downwards the effect of which is to increase pressure of the lower end of the 100 spring on to the disc valve. As the cap is screwed further down the circulation suction thrust ring eventually forces the disc valve down on to its seating. The thrust ring is made of a compressible 105 material in order that the disc valve will be evenly forced down on to its seating.

The exterior of the cap may be provided with a knurled edge so that it may be turned in one direction or the other.

Dated this 3rd day of July, 1950.
APPLEYARD & CROSSLEY,
41, Commercial Street, Halifax,
Agents for the Applicants.

Printed for Her Majesty's Stationery Office by Wickes & Andrews, Ltd., E.O.4. 39/244-1952.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies
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684,788 COMPLETE SPECIFICATION

1 SHEET

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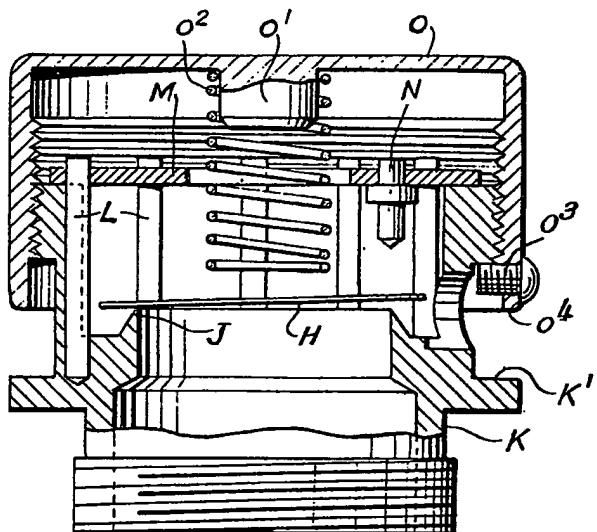
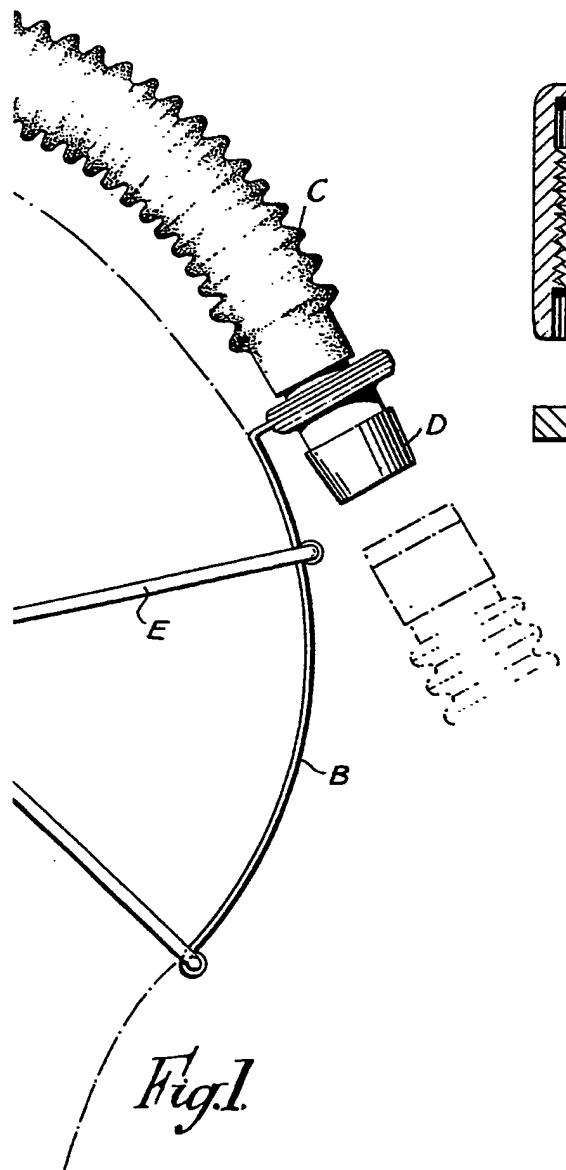


Fig.2.

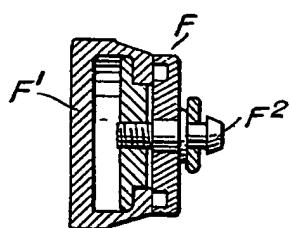


Fig.3.

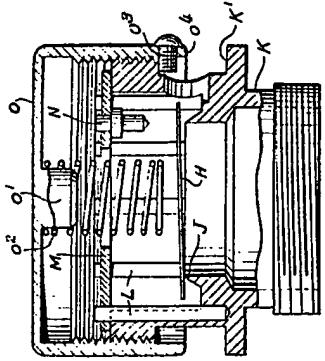


Fig. 2.



Fig. 3.

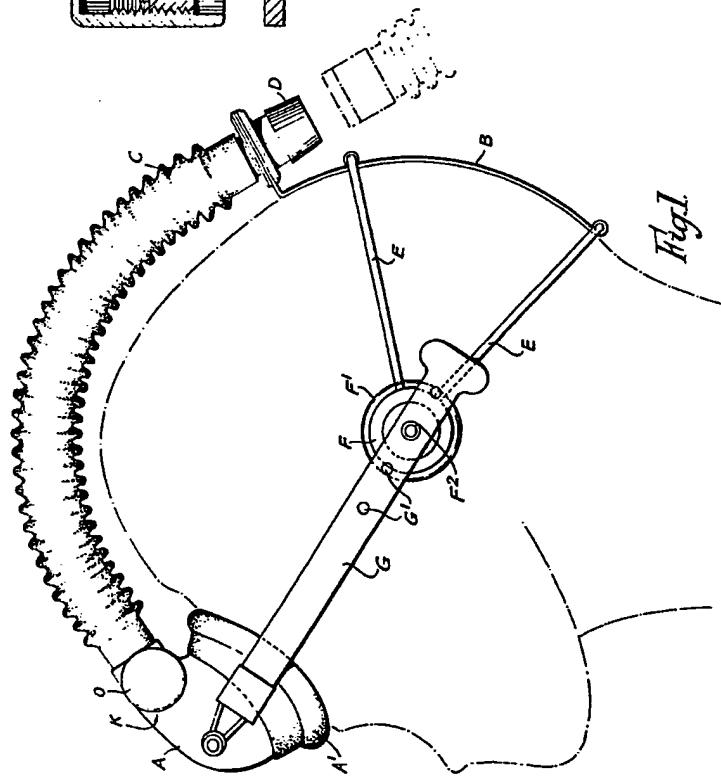


Fig. 1.